

What is claimed is:

1. A capacitor insulating power supply comprising:

a first, second and third switching elements connected in series between positive and negative
5 lines carrying DC current supplied through a rectifier circuit from an AC power supply or directly supplied from a DC power source;

a switch control circuit for on/off controlling the first, second and third switching elements by a
10 signal of a predetermined frequency;

a first capacitor inserted between a load terminal and a connection node of the first switching element and the second switching element, and

a second capacitor inserted between a load
15 terminal and a connection node of the second switching element and the third switching element, in which

capacity values of the first capacitor and the second capacitor are the same;

in the switch control circuit, a phase of on/off
20 of the first and third switching elements are the same; and

the phase of on/off of the first and third switching elements is opposite to a phase of on/off of the second switching element.

2. A capacitor insulating power supply according to claim 1, in which a first inductor is further inserted in series between the load terminal and the connection node of the first switching element and the second switching element, and a second inductor is further inserted in series between the load terminal and the connection node of the second switching element and the third switching element.

10 3. A capacitor insulating power supply according to claim 2, in which capacity values of the first capacitor and the second capacitor are the same, and induction values of the first inductor and the second inductor are the same.

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4. A capacitor insulating power supply according to any one of claims 1 to 3, in which a period of time while the first and third switching elements are in an on-state is included in a period of time while the second switching element is in an off-state, and the former period of time is shorter than the latter period of time.

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